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ABSTRACT

The major purpose of this study was to identify the instructional needs in agriculture for small farmers in Kansas. Secondary purposes of the study included the identification of individual characteristics of small and part-time farmers for various educational methods, program schedules, and program length. A survey instrument was developed and sent to all Kansas farmers listed as members of Kansas Young Farmers in 1982. Fifty instruments were returned from small farmers, 55 from medium-sized farmers, and 75 from large farmers. The research showed that all types of farmers ranked farm mechanics as the most important instructional area, followed by farm management, crops and soils, and animal science. The small farmers rated the instructional areas as more important than did the medium and large farmers. It was also found that farmers thought they should have an input in identifying instructional topics for adult classes; that the vocational educator must be hands-on oriented; that adults must feel at ease in the educational process; and that students should participate in scheduling the educational program. It was recommended that all categories of farmers be included in the same classes, that special efforts be made to include young farmers in educational programs, and that every effort be made to help farmers apply effective farm management practices. (KC)

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ASSESS THE NEEDS FOR AGRICULTURAL INSTRUCTION TO MEET NEEDS OF RURAL OR URBAN RESIDENTS WHO DO NOT DEPEND ON THEIR LAND FOR MAJOR INCOME

THE IDENTIFICATION OF INSTRUCTIONAL NEEDS OF SMALL FARMERS IN KANSAS

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Introduction

The United States Department of Agriculture estimates 2.44 million farms in the United States for 1982. The USDA further estimates 76 thousand farms in Kansas for 1982 with incomes of $1,000 or more from agricultural production. This was a 1,000 increase in the number of farms in Kansas from 1980. The larger number of farms in Kansas is attributed to the additional number of small farms and part-time operations which meet the criterion of at least $1,000 of agricultural sales. The overall average size of farms in Kansas decreased from 644 acres in 1980 to 638 acres per farm in 1982. Kansas ranks 3rd among the 50 states in the land area in farms.

The increase in the number of small and part-time farmers have caused educators and agricultural businessmen to take notice and ask for research to identify the small and part-time farmer and to determine his needs, especially as they related to instructional needs and educational method preferences.

In 1980 Kansas vocational agriculture teachers and agribusinessmen identified the "back to the land" movement as a priority for the 80s. Contacts by small farmers with vocational agriculture teachers for agricultural information at the high school, AVTS, and community college locations were becoming common. Businessmen were selling more small tractors, equipment, and farm building supplies to customers they knew little about, but wanted to know more so that they could serve them better. A financial study by the Kansas Farm Bureau had indicated that a part-time farmer group was emerging with considerable purchasing power. The question was asked: "How much were these people involved in farming, and how many days were they working off the farm?"

In order to learn more about the small farmer in Kansas, and to identify his instructional needs the following study was undertaken.

Purpose

The major purpose of this study was to identify the instructional needs in agriculture for small farmers in Kansas. Secondary purposes of the study included the identification of individual characteristics of small and part-time farmers, and the preferences of small and part-time farmers for various educational methods, program schedules, and program length.

Procedures

In order to identify the instructional needs and educational program preferences for small farmers in Kansas the following procedures were utilized:

1. Develop an instrument which would identify the characteristics of small farmers in Kansas, and also identify the instructional needs in agriculture, and the preferences for various educational methods and programs.

2. Select the population to be interviewed. All young farmers in Kansas were surveyed. It was considered to be essential to compare the characteristics, the instructional needs and the educational preferences of small farmers with all young farmers in Kansas.

3. The instrument was developed by a modified Delphi Technique where experts in agricultural education education suggested what should be included in the survey instrument.

4. After the instrument was developed it was trial tested by Kansas Young Farmers who were students at Kansas State University.

5. The instrument was revised as needed and submitted to graduate seminar classes in Agricultural Education for final trial testing.

6. After the questionnaire was completed it was sent to all Kansas Young Farmer members as listed in the 1982 official Young Farmer Directory.

7. After allowing for enough time for the questionnaires to be returned they were processed through the Kansas State University Computer Center using the SPSS package for the analysis of variance determinations for statistical

significant differences.

8. Frequency statistics were made from the returns for small, medium and large farmers. Included were statistics for instructional needs in agriculture and tabulations for educational methods, program schedule and program length. Significant differences in the responses of small, medium, and large were determined.

9. Conclusions and recommendations were made.

Findings

There were three groups of farmers who were analyzed: small, medium, and large. Fifty returns were received for small farmers, 55 returns for medium sized farmers, and 75 returns for large farmers. Three factors were considered in ranking the farmers by size. The factors were: acres farmed, days worked off the farm and gross sales from crops and livestock. The gross sales from crops and livestock was used to rank the farm operation by size. The three categories for gross farm income were: small, $1 to $39,999; medium, $40,000 to $99,999; and large, $100,000 or more.

The categories for income and farm size are given in Table I. There were six farmers in the $1 to $2,499 classification, seven in the $2,500 to $4,999 group, with 4 in the $5,000 to $9,999. These 17 or 10% of the farmers surveyed were in a very low income situation. Eleven or 6.3% were in the $10,000 to $19,999 income category. The $20,000 to $39,999 income group is considered a medium sized farm by some statisticians. For this study and as recommended by some agricultural researchers, this group should be in the small farmer category. This category included 22 or 12.6% of the farmers surveyed. Fifty-five or 31.4% were in the medium sized category, and 70 farmers or 40% were in the large farmer category, with 45 or 25.7% in the $100,000 to $199,999 grouping, and 25 or 14.3% in the $200,000 or more group.

Table I

Gross Income for 175 Young Farmers in Kansas

Income Category	Number	Percent	Farmer Category*
$1 - $2,499	6	3.4	Small
$2,500 - $4,999	7	4.0	Small
$5,000 - $9,999	4	2.3	Small
$10,000 - $19,999	11	6.3	Small
$20,000 - $39,999	22	12.6	Small
$40,000 - $99,999	55	31.4	Medium
$100-000 - $199,999	45	25.7	Large
$200,000 or more	25	14.3	Large

*$1 to $39,999 gross income equals single farmer (28.6%).
$40,000 to $99,999 gross income equals medium farmer (31.4%).
$100,000 or more fross income equals large farmer (40.0%).

The information on the importance of crops and soils instruction is given in Table II. An eight point scale was used in ranking the importance of the instructional categories for small, medium, and large farmers. Responses with no interest were given a value of 0 and much interest a value of seven. No significant differences were found between the responses of small, medium, and large farmers as to the importance of the instructional topics. The small farmers rated Soil Testing/Additives/Nutrients (5.5) as the most important crops and soils topics followed by Fertilizers/Fertilization (5.3), Pasture Renovation/Improvement (5.1), and Weeds/Herbicides/Application (5.0).

Data in Table III indicates considerable agreement for the topic area of Farm Management by the small, medium, and large farmers. Livestock Markets/Marketing (5.6), Debts/Financing/Budgeting (5.5), Crop Markets/Marketing (5.4), and Taxes/Taxation/Laws (5.1) were rated as the most important instructional topics by the small farmers. There were no significant differences between the small, medium, and large farmers for the Farm Management category except for the topics Wills/Inheritance/Estate Planning where the large farmers rated it higher and significantly different from the other two groups.

Crop Markets/Marketing (5.9) was rated the most important by the medium sized farmers. The topic areas Crop Markets/Marketing, Debts/Financing/Budgeting, Livestock Markets/Marketing, and Computers/Record Keeping were rated higher by the medium and large farmers than by the small farmers.

Table II

The importance of topics for crops and soils instruction as rated by Small, Medium, and Large Farmers.

Instructional Topics	Farmers Category		
	Small	Medium	Large
1. Plant Diseases/Pesticides/Licensing	4.3*	4.8	4.2
2. Weeds/Herbicides/Application	5.0	5.4	5.3
3. Fertilizers/Fertilization	5.3	5.5	5.4
4. Seed Varieties/Selection/Yields	4.6	5.4**	4.8
5. Horticulture/Greenhouse	1.9	2.2	2.1
6. Vegetable/Fruit Production	2.2	2.1	1.7
7. Alternative/Supplimental Crops	3.6	3.7	3.6
8. Soil Conservation/Water Drainage	4.8	5.0	5.3
9. Soil Testing/Additives/Nutrients	5.5	5.2	5.6
10. Pasture Renovation/Improvement	5.1	4.5	4.7
11. Grading Farm Crops	3.2	3.5	3.0
12. Landscaping/Ornamental Plants	2.6	2.7	2.6
13. Forestry/Woody Plant Use	2.9	2.9	2.7

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Table III

The Importance of topics for Farm Management as rated by Small, Medium, and Large Farmers.

Instructional Topics	Farmers Category		
	Small	Medium	Large
1. Partnership/Corporations	4.5*	3.9	4.6
2. Leasing/Agreements	4.7	4.6	4.7
3. Crop Markets/Marketing	5.4	5.9	5.8
4. Debts/Financing/Budgeting	5.5	5.6	5.5
5. Farm Legalities/Laws Water Problems	4.7	4.4	4.5
6. Livestock Markets/Marketing	5.6	5.4	5.4
7. Taxes/Taxation/Laws	5.1	4.8	4.7
8. The Farming Image/Public Relations	4.8	4.6	4.8
9. Computers/Record Keeping	4.9	5.4	5.4
10. Water Rights/Management	3.6	3.5	3.4
11. Farm Security and Insurance	4.0	4.1	4.0
12. Labor Needs/Hiring Labor	3.4	3.6	4.0
13. Wills/Inheritance/Estate Planning	4.8	4.5	5.2**
14. Federal/State Farm Programs	4.3	4.1	4.0
15. International Marketing/Impact	4.2	4.6	4.8
16. Environmental Pollution/Measures	3.4	3.6	3.5

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Table IV illustrates that small farmers rated Livestock Nutrition/ Feeding/Additjves (5.8), Livestock Diseases/Control Prevention (5.7), Beef Production (5.7), and Livestock Breeding/Reproduction as the most important topics. Cattle followed by hogs were the most important topics for small farmers. Sheep/Goats/Production (2.0), Dairy Production (2.2), and Poultry Production (1.8) were rated with a range from very low to very high with an overall low rating because they are specialized areas of production and not many farmers are involved in producing them. There was a significant difference for Sheep/Goat/Production when the large farmers rated the importance lower (1.2) and significantly different than the small (2.0) and medium (1.9) groups of farmers.

Table IV

The importance of topics for Animal Science as rated by Small, Medium, and Large Farmers.

Instructional topic	Farmer Category		
	Small	Medium	Large
1. Animal Waste/Handling/Systems	3.7*	3.9	4.1
2. Livestock/Grading/Selection	4.5	4.4	4.1
3. Livestock Breeding/Reproduction	5.3	5.0	4.9
4. Livestock Nutrition/Feeding/ Additives	5.8	5.4	5.7
5. Livestock Diseases/ Control Prevention	5.7	5.4	5.4
6. Sheep/Goat/Production	2.0	1.9	1.2**
7. Dairy/Production	2.2	2.0	2.2
8. Poultry/Production	1.8	1.5	1.4
9. Beef/Production	5.7	5.4	5.5
10. Swine/Production	4.5	4.4	4.4

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

The interest and need for Farm Mechanic topics are illustrated in Table V. Small farmers rated 7 of the 13 topic areas more important than the medium, and large farmers. Large farmers rated four topic areas more important than the medium and small farmers. In no cases did the medium sized farmers exceed the ratings of the small and large farmers, although they did tie with the small farmers ratings on two occasions.

The small farmers exceeded the other two groups for the importance of building/Construction/Repair/Renovation (5.6), Planning Farmstead Buildings (5.5), Tractor/Machinery/Service/Repair (5.4), and Energy Conservation Practices (5.1). The large farmer exceeded the medium and small farmers for the importance of Tillage/Planting/Equipment/Methods (5.8), Crop Handling/Storage/Drying Systems (5.2), and Harvesting Equipment/Systems (5.2). There is a great interest for topics in the area of Farm Mechanics for both small and large farmers. The small part-time farmers have money from jobs which they can use to build up their farmsteads, and obtain appropriate machinery for their agricultural situation. The larger farmer wants to become technically proficient in the use of tillage and harvesting equipment.

Table V

The importance of topics for Farm Mechanics as rated by Small, Medium, and Large farmers.

	Farmer Category		
Instructional topic	Small	Medium	Large
1. Irrigation/Practices/Systems	2.6*	2.8	3.0
2. Alternate Energy Sources	4.8	4.6	4.7
3. Energy Conservation Practices	5.1	4.8	5.0
4. Tillage/Planting/Equipment/Methods	5.4	5.6	5.8
5. Crop Handling/Storage/Drying Systems	4.9	4.8	5.2
6. Harvesting Equipment/Systems	4.9	5.0	5.2
7. Planning Farmstead Buildings	5.5	4.8	5.0
8. Basic Welding/Arc/Gas	4.9	4.5	4.5
9. Advanced Welding/Tig/Mig	4.4	3.9	3.9
10. Tractor/Machinery/Service/Repair	5.4	5.4	5.0
11. Farmstead Electrification/Use	5.1	4.8	4.4**
12. Processing Farm Crops	4.3	4.3	3.9
13. Building/Construction/Repair/Renovation	5.6**	5.0	4.8

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Information in Table VI indicates that small farmers are more interested than medium and large farmers for the instructional categories of Farm Mechanics, and Animal Science. The medium sized farmer was the most interested in the crops and soils category while the large farmers were the more interested in Farm Management.

EDUCATIONAL PROGRAMS

Information in Table VII lists the importance of 11 educational methods. The highest rated methods by small, medium, and large farmers included Tours and On-Farm Demonstrations, Guest Speakers with Handout Material, Workshops with Hands-on Activities, Visit with Resource Person on the Farm, and Adult Education Classes. There was one significant difference for the method Visit Resource Person over the Telephone where the small farmers indicated an interest rating of 3.3 which was significantly lower than for the medium and large farmer. Four educational methods were rated low by the small, medium, and large farmers. They were: Educational TV programs, Radio programs, Visit Resource Person in His Office, and Visit Resource Person over the Telephone..

Table VI

Average means for Instructional Categories as rated by Small, Medium, and Large farmers.

	Farmer Category		
Instructional Category	Small	Medium	Large
Crops and Soils	3.9	4.0	3.9
Farm Management	4.5	4.5	4.6
Animal Science	4.1	3.8	3.7
Farm Mechanics	4.8	4.6	4.6

Table VII

The Importance of Educational Methods as rated by Small, Medium, and Large farmers.

Educational Method	Farmer Category		
	Small	Medium	Large
1. Home Study/fact sheets/bulletin/ taxes	5.0*	4.9	4.6
2. Educational TV programs	4.3	4.4	3.9
3. Radio Programs	4.1	4.2	4.0
4. Tours and on-farm demonstrations	5.3	5.2	5.3
5. Guest speakers with handout material	5.2	5.5	4.8
6. Group discussion/idea sharing	4.8	4.8	4.5
7. Workshops with hands-on activities	5.3	5.3	4.8
8. Visit with resource person on farm	4.9	5.2	5.1
9. Visit resource person in his office	3.6	4.1	3.9
10. Visit resource person over telephone	3.3**	4.1	4.0
11. Adult Education Classes	5.2	5.1	4.7

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level

Information on Program Scheduling is given in Table VIII. Five choices were listed with the choice of a Week Day Evening receiving the most support, followed by On Occasion as needed, and Once a Month as the next most important. Once a Week received some support with On a Weekend Evening receiving the least support, however, each of the five choices had some ratings of much importance.

There were six choices for program length in Table IX. Flexible as Event Requires received the highest rating, followed by 2-3 hours as an important choice. One Hour or Less, Whole Day, and Several days or Consecutive Evenings were not popular choices. The Half Day choice was of moderate interest to the respondents. The choice Flexible as Event Requires indicates that the young farmers look forward to cooperating with the program scheduling of their local young farmer chapters.

Table VIII

The importance of the Program Schedule as rated by Small, Medium, and Large farmers.

	Farmers Category		
Program Schedule	Small	Medium	Large
1. Once a week	3.3*	3.3	3.2
2. Once a month	4.9	5.5**	4.8
3. On occasion as needed	5.0	5.3	5.4
4. On a weekday evening	5.6	5.3	5.1
5. On a weekend evening	2.6	3.0	2.9

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level

Table IX

The importance of the Program Length as rated by Small, Medium, and Large farmers.

	Farmers Category		
Program Length	Small	Medium	Large
1. 1 hour or less	3.3*	3.2	3.2
2. 2-3 hours	5.5	5.8	5.1
3. Half day	4.0	4.5	4.1
4. Whole day	3.1	3.5	2.9
5. Several days or consecutive evenings	3.6	3.8	3.7
6. Flexible as event requires	5.6	6.0	5.8

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level

Comparison of Small and Part-Time Farmers

For the purposes of this study small and parttime farmers were those with gross incomes from $1 to $39,999 as given in Table X. There were twenty part-time farmers who worked 200 days or more off the farm. Two worked 150 to 199 days and six who worked 100 to 149 days off the farm. Two worked 50 to 99 days, and six worked 1 to 49 days off the farm. Fourteen were small farmers who did not work any off the farm. Without the wheat freeze and depressed crop prices many of the small farmers would have been medium sized farmers. One of the goals of this study was to compare the differences between small farmers who worked off the farm and those who did not.

Instructional Areas

The interest in Crops and Soils for farmers who worked 200 days or more off the farm exceeded the small farmer who did not work or worked less than 199 days in 8 of the topic areas in Table XI. In three cases the small farmer who did not work or worked less than 199 days off the farm exceeded the interest of the group who worked 200 days or more off the farm. In two cases the two groups had identical means. The group with 200 or more days employment off the farm were higher for long term improvements such as Soil Conservation/Water Drainage (5.3), Pasture Renovation/Improvement (5.2), Landscaping/Ornamental Plants (2.9), and Forestry/Woody Plant Uses (3.5).

The small farmers who did not work or worked less than 199 days off the farm were more interested in Seed Varieties/Selection/Yields (4.9) and Soil Testing/Additives/Nutrients (5.5). The small farmers without jobs

or with less than 200 days employment off the farm were more interested in how they could increase their farm income with Soil Testing/Additives/Nutrients and Seed Varieties/Selection/Yield whereas those with more non-farm income were more interested in long term types of benefits such as Soil Conservation/Water Drainage, Pasture Renovation/Improvement, and Forestry/Woody Plant Uses. The extra income from off-farm jobs makes it possible for the part-time farmers to have extra resources to build up their farms for long term benefits.

The small farmer who did not work or worked less than 199 days off the farm concentrated more on production agriculture topics in Table XII such as Crop Markets/Marketing (5.7), Debts/Financing/Budgeting (5.6), Farm Legalities/Laws/Water Problems(4.9). The part-time farmer with 200 or more hours off the farm rated topics higher for Taxes/Taxation/Laws (5.4), Computers/Record Keeping (5.2), Water Rights/Management (3.8), Farm Security and Insurance (4.2), Labor Needs/Hiring Labor (3.6), Wills/Inheritance/Estate Planning (5.2), Federal/State Farm Programs (4.6), and Environmental Pollution/Measures (3.8).

The part-time farmer with 200 days or more off the farm rated 7 of the 10 Animal Science topics as more important than the small farmers who did not work or worked less than 199 days off the farm. The small farmers with less than 199 days worked off the farm rated Livestock Diseases/Control Prevention (5.8), and Beef/Production (5.8) more important than the part-time farmer. The topic Livestock Nutrition/Feeding/Additives was rated (5.8) by both groups of small farmers.

The part-time farmers with 200 days or more worked off the farm rated Poultry Production significantly higher (2.4) than the small farmer with none or less than 200 or more days off the farm (1.4).

Table X

Days Worked Off the Farm by Small Farmers with Income from $1 to $39,999.

Days off the Farm	Number	Percent
None	14	28.0
1 - 49 days	6	12.0
50 - 99 days	2	4.0
100 - 149 days	6	12.0
150 - 199 days	2	4.0
200 or more days	20	40.0

Table XI

The Importance of Instructional Topics for Crops and Soils as rated by Small farmers according to the Number of Days Worked off the farm.

	Days Worked off the Farm	
Instructional Topics	0 to 199	200 or more
1. Plant Disease/Pesticides/Licensing	4.2*	4.3
2. Weeds/Herbicides/Application	5.0	5.0
3. Fertilizers/Fertilization	5.3	5.3
4. Seed Varieties/Selection/Yields	4.9	4.1
5. Horticulture/Greenhouse	1.7	2.4
6. Vegetable/Fruit Production	1.6	3.0**
7. Alternative/Supplimental Crops	3.4	3.8
8. Soil Conservation/WaterDrainage	4.5	5.3
9. Soil Testing/Additives/Nutrients	5.5	5.4
10. Pasture Renovation/Improvement	5.0	5.2
11. Grading Farm Crops	3.3	3.0
12. Landscaping/Ornamental Plants	2.5	2.9
13. Forestry/Woody Plant Use	2.5	3.5

* Rating Scale: none = 0 points to much = 7 points.

** Significant difference at the .01 level

Table XII

The importance of instructional topics for Farm Management as rated by Small farmers according to the number of days worked off the farm.

	Days Worked Off the Farm	
Instructional Topics	0 - 199	200 or more
1. Partnerships/Corporations	4.5*	4.5
2. Leasing/Agreements	4.7	4.6
3. Crop Markets/Marketing	5.7	5.0
4. Debts/Financing/Budgeting	5.6	5.4
5. Farm Legalities/Laws/Water Problems	4.9	4.5
6. Livestock Markets/Marketing	5.8	5.4
7. Taxes/Taxation/Laws	4.9	5.4
8. The Farming Image/Public Relations	4.9	4.8
9. Computers/Record Keeping	4.6	5.2
10. Water Rights/Management	3.4	3.8
11. Farm security and Insurance	3.9	4.2
12. Labor Needs/Hiring Labor	3.2	3.6
13. Wills/Inheritance/Estate Planning	4.5	5.2
14. Federal/State Farm Programs	4.0	4.6
15. International Marketing/Impact	4.2	4.2
16. Environmental Pollution/Measures	3.2	3.8

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

For the Area of Farm Mechanics in Table XIV the small farmers who did not work or worked less than 199 days off the farm reported more interest for 9 of the 13 topic areas. The part-time farmers with 200 or more days off the farm expressed more interest for two topic areas, and two topic areas had identical means for the two groups. The group with 200 or more days off the farm expressed more interest in farmstead Electrification/Use (5.2), and Irrigation Practices/Systems (2.8). There were no significant differences for any of the topic areas by the two groups. The small farmers who did not work off the farm or less than 199 days off the farm indicated more interest for Building/Construction/ Repair (5.7), Tractor/Machinery/Service/Repair (5.6), Planning Farmstead Buildings (5.5), Tillage/Planting/Equipment/Methods (5.5), and Energy Conservation Practices (5.4).

Table XIII
The importance of instructional taopics for Animal Science as rated by Small farmers according to the number of days worked off the farm.

	Days Worked Off the Farm	
Instructional Topics	0 to 199	200 or more
1. Animal Waste/Handling/Systems	3.5*	4.0
2. Livestock/Grading/Selection	4.3	4.8
3. Livestock Breeding/Reproduction	5.3	5.4
4. Livestock Nutrition/Feeding/Additives	5.8	5.8
5. Livestock Diseases/Control Prevention	5.8	5.5
6. Sheep/Goat/Production	1.6	2.5
7. Dairy/Production	2.0	2.5
8. Poiltry/Production	1.4	2.4**
9. Beef/Production	5.8	5.6
10. Swine Production	4.1	5.1

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Table XIV

The importance of instructional topics for Farm Mechanics as rated by small farmers according to the number of days worked off the farm.

	Days Worked Off the Farm	
Instructional topics	0 to 199	200 or more
1. Irrigation/Practices/Systems	2.5*	2.8
2. Alternative/Energy Sources	5.0	4.6
3. Energy Conservation Practices	5.4	4.8
4. Tillage/Planting/Equipment/Methods	5.5	5.4
5. CropHandling/Storage/Drying Systems	4.9	4.9
6. Harvesting Equipment/Systems	5.1	4.6
7. Planning Farmstead Buildings	5.5	5.5
8. Basic Welding/Arc/Gas	5.2	4.6
9. Advanced Welding/Tig/Mig	4.8	3.8
10. Tractor/Machinery/Service/Repair	5.6	5.0
11. Farmstead Electrification/Use	5.0	5.2
12. Processing Farm Crops	4.5	4.0
13. Building/Construction/Repair/ Renovation	5.7	5.5

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Information in Table XV indicates that small farmers who do not work or work less than 199 days off the farm were more interested in farm mechanics topics. The small farmers who work 200 or more days off the farm were more interested in instructional topics for crops and soils, farm management, and animal science.

Educational Methods

The responses in Table XVI indicate agreement on the use of educational methods by the small and the part-time farmers. The part-time farmers with 200 or more days of employment off the farm were more interested in Home Study/Fact Sheets/Bulletins/Tapes (5.2), Group Discussion/Idea Sharing (5.2), and Adult Education Classes (5.6).

The small farmer who did not work or worked less than 199 hours rated Educational TV programs (4.6), Radio programs (4.2), Tours and on-farm demonstrations (5.4), Guest speakers with handout material (5.3), and Workshops with hands-on activities (5.5) higher than the part-time farmers with 200 days worked off the farm.

Both groups agreed that Adult Education Classes were very important and that the educational methods, Tours and On-farm Demonstrations, Guest Speakers with Handout Material, and Workshops with Hands-on Activities should be utilized in adult education programs.

Information in Table XVII indicated that both groups of small farmers preferred that classes be held on a weekday evening (Mon.-Thur.). Both groups further preferred classes meet once a month and on occasion as needed. The two groups of small farmers did not prefer classes meet once a week, or on weekend evenings (Fri.-Sat.). There were no significant differences in the responses of the two groups.

Table XV

Average Means for Instructional Categories as rated by Small Farmers according to the number of days worked of the farm.

	Days Worked Off the Farm	
Instructional Categories	0 - 199	200 or more
1. Crops and Soils	3.8	4.1
2. Farm Management	4.5	4.6
3. Animal Science	4.0	4.4
4. Farm Mechanics	5.0	4.7

Table XVI

The importance of Educational Methods as rated by Small farmers according to the number of days worked off the farm.

Educational Method	Days Worked Off the Farm	
	0 to 199	200 or more
1. Home study/fact sheets bulletins/ tapes	4.8*	5.2
2. Educational TV programs	4.6	3.8
3. Radio programs	4.2	4.0
4. Tours and on-farm demonstrations	5.4	5.2
5. Guest speakers with handout material	5.3	5.0
6. Group discussion/Idea sharing	4.6	5.2
7. Workshops with hands-on activities	5.5	5.0
8. Visit resource person on farm	4.9	5.0
9. Visit resource person in his office	3.4	4.0
10. Visit resource person over telephone	3.3	3.4
11. Adult Education Classes	5.0	5.6

* Rating Scale: none = 0 points to much = 7 points.

**Significant differance at the .05 level.

Table XVII

The importance of the Program Schedule as rated by Small farmers according to the number of days worked off the farm.

	Days Worked Off the Farm	
Program Schedule	0 to 199	200 or more
1. Once a week	3.4*	3.2
2. Once a month	4.8	5.2
3. On occasion as needed	5.2	4.8
4. On a weekday evening (Mon. - Thur.)	5.5	5.8
5. Ona weekend evening (Fri. or Sat.)	2.5	2.8

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Data in Table XVIII listed two preferred statements for program length, 2-3 hours, and flexible as event requires with ratings of 5.2 or more for both small farmer groups. Programs of 1 hour or less, whole day, and several days or consecutive evenings had ratings of less than 4.0 by each group. The half-day selection was rated 4.2 in importance by the small farmer with none or less than 199 days work off the farm, and 3.6 by the part-time farmers. There were no significant differences in the responses of the two groups.

Table XVIII

The importance of the Program Length as rated by Small farmers according to the number of days worked off the farm.

	Days Worked Off the Farm	
Program Length	0 to 199	200 or more
1. 1 hour or less	3.4*	3,2
2. 2-3 hours	5.2	6.0**
3. Half day	4.2	3.6
4. Whole day	3.2	2.9
5. Several days or consecutive evenings	3.4	3.9
6. Flexible as event requires	5.8	5.2

* Rating Scale: none = 0 points to much = 7 points.

**Significant difference at the .05 level.

Conclusions

The small, medium, and large farmers ranked farm mechanics as the most important instructional area followed by farm management, crops and soils, and animal science. The small farmers rated the instructional areas as more important than the medium and large farmers.

Instructional Needs

1. The instructional needs and preferred educational methods of small farmers are nearly the same as the instructional needs for medium, and large farmers. There was five significant differences for the 52 instructional topic areas for small, medium and large farmers. There were 2 significant differences for the 20 educational methods used in the study.

2. Farmers should have an input in identifying instructional topics for adult classes. Although the instructional needs for small, medium, and large farmers were very similar there were few significant differences. The larger farmers indicated a greater need for Wills/Inheritance/Estate Planning. Small farmers expressed more interest in Sheep/Goat/Production and Farmstead electrification. Medium sized farmers expressed a greater need for Seed varieties/Selection/Yields. However within each group of farmers there was a wide variation in the expressed needs of individual farmers.

3. The small farmer has a greater need for instruction than the medium and large farmer groups. Small farmers had the highest score in expressed need for animal science topics. They were the highest ratings for 7 of the 10 topic areas for animal science. Small farmers also rated 7 of the 13 farm mechanics topics higher than did the medium and large farmers.

4. The small farmer who did not have income from working off the farm did more of his own work. Large farmers could have the work hired, did not need to watch their money so closely, and did have much of the work hired.

5. Special attention should be given to the importance of farm mechanics and farm management. These were the two areas of instruction which were rated as the most important categories by each of the three groups of farmers.

Educational Methods

1. The vocational educator must be hands-on oriented. Hands-on instructional methods, tours, on-farm demonstrations, workshops with hands-on activities, and farm visits were rated as the most effective instructional visits.

2. The adults must feel at ease in the educational process in order to receive maximum benefit. Visiting with resource persons over the telephone was rated as significantly lower in importance by the small farmers than the medium and large farmers.

3. The adult class members should have a part in scheduling the adult education program. The adults have definite ideas on program scheduling, and their wishes should be honored when possible. The adults want to cooperate and rated the item 'on occasion as needed' as the second most important program scheduling consideration.

4. Classes need to be scheduled at the convenience of the adult class members. The most important consideration for program scheduling was 'On a weekday evening' followed by 'On occasion as needed', and 'Once a month'. The adults did not prefer 'Once a week', or 'On a week-end evening'.

5. Adult class sessions should be limited to 2 to 3 hours in length. The respondents agreed that program length should be flexible and that 2-3 hours is the most desirable with one hour too short and a whole day too long.

Recommendations

As a result of the findings of this study the following recommendations are made:

1. That small farmers be included with medium and large farmers in adult farmer classes.

2. That adult class members participate in identifying their instructional needs and selection of class topics.

3. That the instructors of adult farmer classes be encouraged to make on farm visits, and include hands-on learning experiences in the adult education classes.

4. That provisions be made for the inclusion of topics which are very important for some class members but not important for others such as dairy, poultry, and sheep production topics.

5. That the instructor of adult education classes provide for hands-on small group instruction classes, workshops, tours or on farm visits by resource persons for the areas of dairy, poultry, and sheep production.

6. That the instructor of adult education classes in agriculture help class members set short and long term goals in agriculture.

7. That the instructor of adult programs help the class members identify their problems, and point out instructional needs to the student which will help solve the individual problems.

8. That the instructor of adult education programs in agriculture become the facilitator of learning for the adult class members.

9. That the instructor of adult education programs utilize all resources available to impart agricultural knowledge; namely, resource persons, knowledgeable students, and visual materials in providing information to the student.

10. That special efforts be made to include the small farmer in adult education programs in agriculture especially the beginning farmer who is just getting established.

11. That special efforts be made to help the young farmer survive in agriculture as he must get along with used equipment and materials while the large farmer has newer equipment.

12. That every effort be made to help the farmers apply effective farm management practices.

KSU
KANSAS STATE UNIVERSITY

Department of Adult and Occupational Education

College of Education
General Classroom Building
Manhattan, Kansas 66506
913-532-5535

May 17, 1982

Dear

I am conducting a project funded by the Kansas State Department of Education to identify the instructional needs of small farmers in Kansas. I am asking Young Farmers to take 5 to 10 minutes to help identify the instructional needs. I would like to see if there is a difference in the instructional needs of young farmers due to farm size, type of farm operation, and amount of time employed off the farm. You prompt reply is greatly appreciated, and will help us to better meet the instructional needs of young farmers.

Please use the enclosed return envelope which is coded for our convenience. The envelopes will be separated from the questionnaires as they are received to guarantee the confidentiality of your responses. Only group data will be used in analyzing the results of the study. Your immediate reply is greatly appreciated. Thank you.

Gratefully yours,

James Albracht
Agricultural Education

JA/rn

SURVEY OF KANSAS FARMERS AND RANCHERS

1. Age _____ years.

2. Farm is located in _____ county.

3. Size of farm:

No. of acres owned ____
No. of acres rented ____
No. of acres leased to others ____
No. of total acres ____

4. Gross income from sales of crops and Livestock. Check one.

____ $1-2,499
____ $2,500-$4,999
____ $5,000-$9,999
____ $10,000-$19,999
____ $20,000-$39,999
____ $40,000-$99,999
____ $100,000-$199,999
____ $200,000-more

5. Indicate days employed off the farm per year.

____ None
____ 1-49
____ 50-99
____ 100-149
____ 150-199
____ 200 or more

6. Give the acres harvested for the following crops:

____ acres in corn
____ acres in wheat
____ acres in soybeans
____ acres in sorghum

Other crops, please specify: Crop kind & No. of Acres

_____ ____
_____ ____
_____ ____

7. Specify your anticipated number of farm animals for 1982:

No. of beef cattle and calves ____
No. of hogs and pigs ____
No. of sheep and lambs ____
No. of poultry ____
No. of dairy cattle and calves ____
No. of horses ____

Other livestock, please specify: Kind and No.

_____ ____
_____ ____
_____ ____

PLEASE INDICATE YOUR INTEREST AND NEED FOR THE FOLLOWING TOPICS OF INFORMATION BY PLACING A SLASH MARK (/) on the 7 POINT SCALE. For example, perhaps you feel the topic of crop markets and marketing is of definite interest to you.

You could indicate this by placing a slash mark (5/6) between the 5 and 6 on the interest scale.

Example: A. Crop markets/Marketing None 0 1 2 3 4 5/6 7 Much

CROPS AND SOILS

		0	1	2	3	4	5	6	7						
1.	Plant Diseases/Pesticides/Licensing	None								Much	8.	Soil Conservation/Water Drainage	None								Much
2.	Weeds/Herbicides/Application	None								Much	9.	Soil Testing/Additives/Nutrients	None								Much
3.	Fertilizers/Fertilization	None								Much	10.	Pasture Renovation/Improvement	None								Much
4.	Seed Varieties/Selection/Yields	None								Much	11.	Grading Farm Crops	None								Much
5.	Horticulture/Greenhouse	None								Much	12.	Landscaping/Ornamental Plants	None								Much
6.	Vegetable/Fruit Production	None								Much	13.	Forestry/Woody Plant Use	None								Much
7.	Alternative/Supplemental Crops	None								Much	14.	Other _____	None								Much

FARM MANAGEMENT

		0	1	2	3	4	5	6	7												
1.	Partnership/Corporations	None								Much	10.	Water Rights/Management	None								Much
2.	Leasing/Agreements	None								Much	11.	Farm Security and Insurance	None								Much
3.	Crop Markets/Marketing	None								Much	12.	Labor Needs/Hiring Labor	None								Much
4.	Debts/Financing/Budgeting	None								Much	13.	Wills/Inheritance/Estate Planning	None								Much
5.	Farm Legalities/Laws/Water Problems	None								Much	14.	Federal/State Farm Programs	None								Much
6.	Livestock Markets/Marketing	None								Much	15.	International Marketing/Impact	None								Much
7.	Taxes/Taxation/Laws	None								Much	16.	Environmental Pollution/Measures	None								Much
8.	The Farming Image/Public Relations	None								Much	17.	Other _____	None								Much
9.	Computers/Record Keeping	None								Much											

ANIMAL SCIENCE

1. Animal Waste/Handling/Systems — None 0 1 2 3 4 5 6 7 Much
2. Livestock/Grading/Selection — None 0 1 2 3 4 5 6 7 Much
3. Livestock Breeding/Reproduction — None 0 1 2 3 4 5 6 7 Much
4. Livestock Nutrition/Feeding/Additives — None 0 1 2 3 4 5 6 7 Much
5. Livestock Diseases/Control Prevention — None 0 1 2 3 4 5 6 7 Much
6. Sheep/Goat/Production — None 0 1 2 3 4 5 6 7 Much
7. Dairy/Production — None 0 1 2 3 4 5 6 7 Much
8. Poultry/Production — None 0 1 2 3 4 5 6 7 Much
9. Beef Production — None 0 1 2 3 4 5 6 7 Much
10. Swine/Production — None 0 1 2 3 4 5 6 7 Much
11. Other _____ — None 0 1 2 3 4 5 6 7 Much

FARM MECHANICS

1. Irrigation/Practices/Systems — None 0 1 2 3 4 5 6 7 Much
2. Alternative Energy Sources — None 0 1 2 3 4 5 6 7 Much
3. Energy Conservation Practices — None 0 1 2 3 4 5 6 7 Much
4. Tillage/Planting/Equipment/Methods — None 0 1 2 3 4 5 6 7 Much
5. Crop Handling/Storage/Drying Systems — None 0 1 2 3 4 5 6 7 Much
6. Harvesting Equipment/Systems — None 0 1 2 3 4 5 6 7 Much
7. Planning Farmstead Buildings — None 0 1 2 3 4 5 6 7 Much
8. Basic Welding/Arc/Gas — None 0 1 2 3 4 5 6 7 Much
9. Advanced Welding/Tig/Mig — None 0 1 2 3 4 5 6 7 Much
10. Tractor/Machinery/Service/Repair — None 0 1 2 3 4 5 6 7 Much
11. Farmstead Electrification/Use — None 0 1 2 3 4 5 6 7 Much
12. Processing Farm Crops — None 0 1 2 3 4 5 6 7 Much
13. Building/Construction/Repair/Renovation — None 0 1 2 3 4 5 6 7 Much
14. Other _____ — None 0 1 2 3 4 5 6 7 Much

EDUCATIONAL METHODS

How well would the following methods transmit information to you and motivate your involvement and participation?

1. Home study/fact sheets/bulletins/tapes — None 0 1 2 3 4 5 6 7 Much
2. Educational TV programs — None 0 1 2 3 4 5 6 7 Much
3. Radio programs — None 0 1 2 3 4 5 6 7 Much
4. Tours and on-farm demonstrations — None 0 1 2 3 4 5 6 7 Much
5. Guest speakers with handout material — None 0 1 2 3 4 5 6 7 Much
6. Group discussion/idea sharing — None 0 1 2 3 4 5 6 7 Much
7. Workshops with hands-on activities — None 0 1 2 3 4 5 6 7 Much
8. Visit with resource person on farm — None 0 1 2 3 4 5 6 7 Much
9. Visit resource person in his office — None 0 1 2 3 4 5 6 7 Much
10. Visit resource person over telephone — None 0 1 2 3 4 5 6 7 Much
11. Adult Education Classes — None 0 1 2 3 4 5 6 7 Much
12. Other _____ — None 0 1 2 3 4 5 6 7 Much

How well would the following program schedule motivate you to attend?

1. Once a week — None 0 1 2 3 4 5 6 7 Much
2. Once a month — None 0 1 2 3 4 5 6 7 Much
3. On occasion as needed — None 0 1 2 3 4 5 6 7 Much
4. On a weekday evening (Mon-Thur) — None 0 1 2 3 4 5 6 7 Much
5. On a weekend evening (Fri or Sat) — None 0 1 2 3 4 5 6 7 Much
6. Other _____ — None 0 1 2 3 4 5 6 7 Much

How would the following length of programs motivate you to attend?

1. 1 hour or less — None 0 1 2 3 4 5 6 7 Much
2. 2-3 hours — None 0 1 2 3 4 5 6 7 Much
3. half day — None 0 1 2 3 4 5 6 7 Much
4. whole day — None 0 1 2 3 4 5 6 7 Much
5. several days or consecutive evenings — None 1 2 3 4 5 6 7 8 Much
6. flexible as event requires — None 0 1 2 3 4 5 6 7 Much
7. Other _____ — None 0 1 2 3 4 5 6 7 Much